

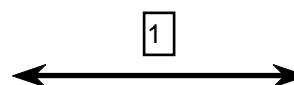
Helper T-cell Epitopes – VPR

Location	Epitope	Antigen	Species(HLA)	Reference
Comments				
VPR(66-80 IIIB)	QLLFIHFRIGCRHSR	HIV infection	human(?)	[Sarobe (1994)]
		This peptide was found to stimulate proliferative responses in 37.5% of HIV-1 positive individuals		
VPR(66-80 IIIB)	QLLFIHFRIGCRHSR	peptide	murine(H-2 ^d)	[Sarobe (1994)]
		Included as a T-helper stimulatory component of peptide vaccines that also incorporated B-cell epitopes		

VPR Helper-EPITOPES

1 MEQAPEDQGPQREPYNNEWTLEELKSEAVRHFP RVWLHSLGQHIYETY 50

51 GDTWTGVEAIIRILQLLFIHFRIGCRHSRIGITPQRRA NGASRS 96



HIV Helper T-cell Epitopes

Epitopes and protein variability:

This plot shows a score that is a measure of variability for each position in the VPR protein alignment, and the relative positions of regions with defined helper epitopes as seen on the helper epitope map. The solid lines are positions where the most common character in a VPR protein alignment is an amino acid; the dashed lines represent regions where the most common character is an insertion (dash) incorporated to maintain the alignments. The alignment used corresponds to the 1994 VPR protein alignment, publically available at the Human Retroviruses and AIDS database, totaling 21 sequences. See the "how to use the helper section" information for more details on the variability measure. The higher scores indicate more variation; 0 is perfectly conserved. The different protein alignments (gp120, gp41, p24, p15, p17, Nef, VPR, and RT) used to create these plots contain different sets of sequences; therefore each plot is internally consistent, but cannot be compared to other protein plots.

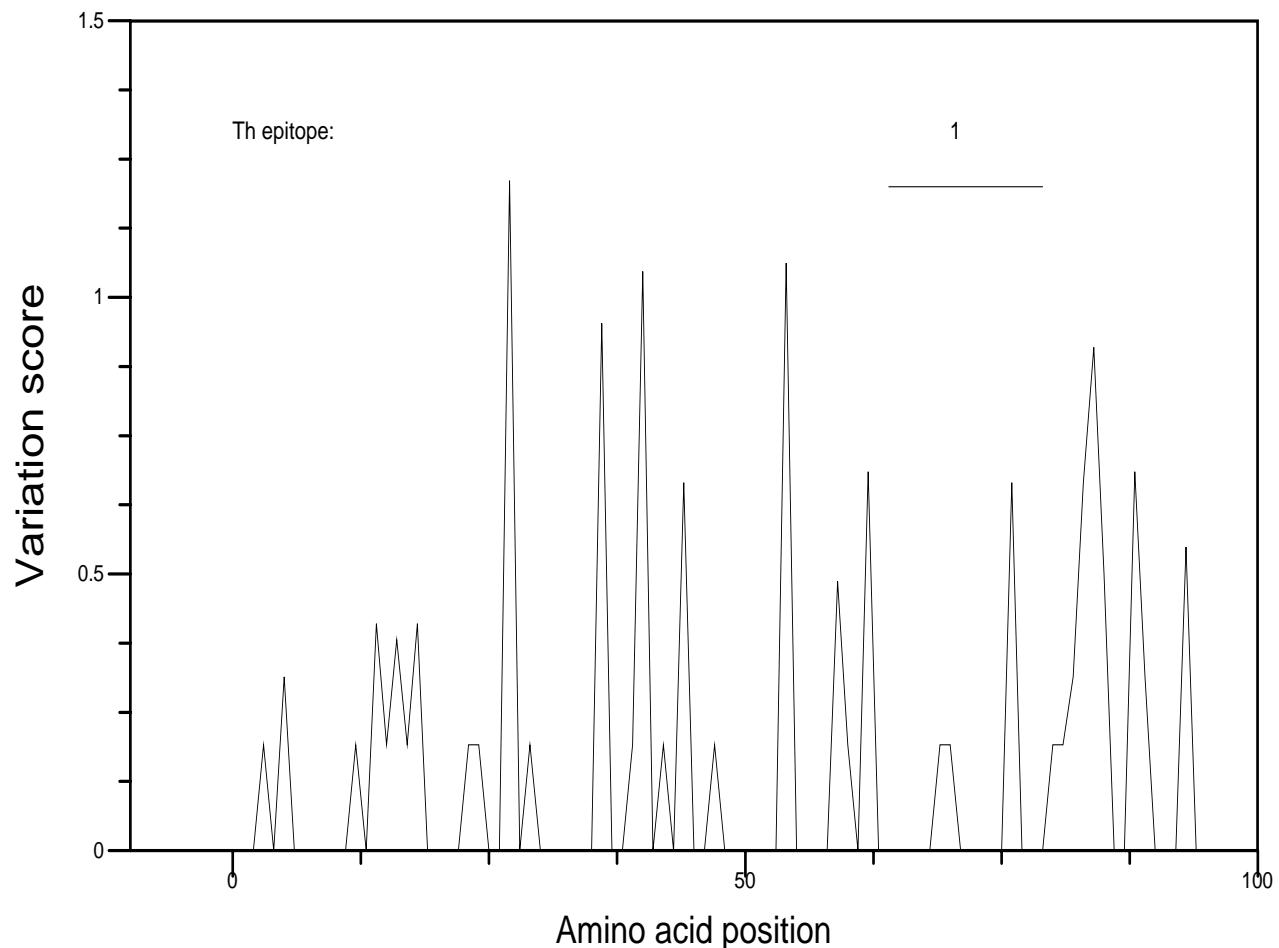
Most common amino acid in each position in the VPR protein is shown below. The numbering corresponds to the numbering in the variability plot for the VPR protein.

VPR CONSENSUS:

MEQAPEDQGPQREPYNNEWTLELLEELKSEAVRHFPRIWLHSLGQHIYETY 50

GDTWAGVEAIIRILQQLLFIHFRIGCQHSRIGITRQRRA-RNGASRS

Variation in positions in the VPR protein



VPR Helper Epitope 1

CONSENSUS-B QLLFIHFRIGCRHSSR
Epitope1 -----

CONSENSUS-A -----Q---
HIVU455 -----Q---

CONSENSUS-B -----
HIVLAI -----R---
HIVMN -----R---
HIVSC -----R---
HIVJRCSF -----R---
HIVJRFL -----Q---
HIVNH52 -----Q---
HIVOYI -----Q---
HIVSF2 -----Q---
HIVNY5CG -----Q---
HIVNL43 -----R---
HIVCAM1 -----R---
HIVHAN -----R---
HIVD31 -----Q---
HIVRF -----Q---
HIVYU2 -----Q---
HIVBCSG3C ----TL----R---

CONSENSUS-D -----Q---
HIVELI -----Q---
HIVZ2Z6 -----Q---
HIVNDK -----Q---

CONSENSUS-O ----T-Y----Q---
HIVMAL -----Q---
HIVANT70 ----T-Y----Q---
HIVMVP51 ----T-Y----Q---

SIVCPZGAB H-----L--Q---